ShinDengen

SG30SC3LM

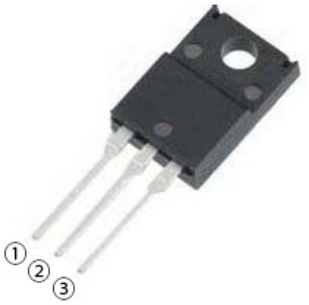
Schottky Barrier Diodes
30V, 30A

Feature

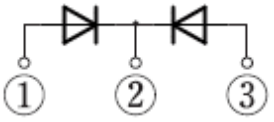
- High Recovery Speed
- Low V_F
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): FTO-220G
Package (JEITA Code): SC-91



Equivalent circuit



Absolute Maximum Ratings (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 150	℃
Junction temperature	Tj		-55 to 150	℃
Repetitive peak reverse voltage	V_{RRM}		30	V
Repetitive peak surge reverse voltage	V_{RRSM}	Pulse width 0.5ms, duty=1/40	35	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Rating for each diode IF(AV)/2, With heatsink, Tc=117°C	30	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=25°C	350	A
Surge forward current	I_{FSM1}	tp=1ms, Sine wave, Non-repetitive, Peak value, Tj=25°C	685	A
Dielectric strength	Vdis	Terminals to case backside, AC 1 minute.	1.5	kV
Mounting torque	TOR	(Recommended torque：0.3N･m)	0.5	N･m

※ ：See the original Specifications

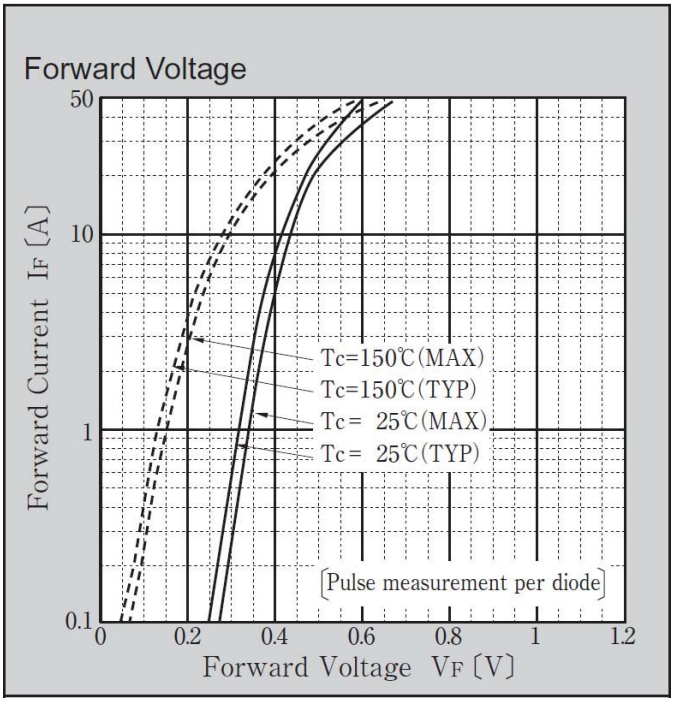
Electrical Characteristics (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=12.5A, Pulse measurement, per diode		0.42	0.45	V
Reverse current	I_R	VR=30V, Pulse measurement, per diode			15	mA
Total capacitance	Ct	f=1MHz, VR=10V, per diode		960		pF
Thermal resistance	Rth(j-c)	Junction to case, With heatsink			1.7	°C/W

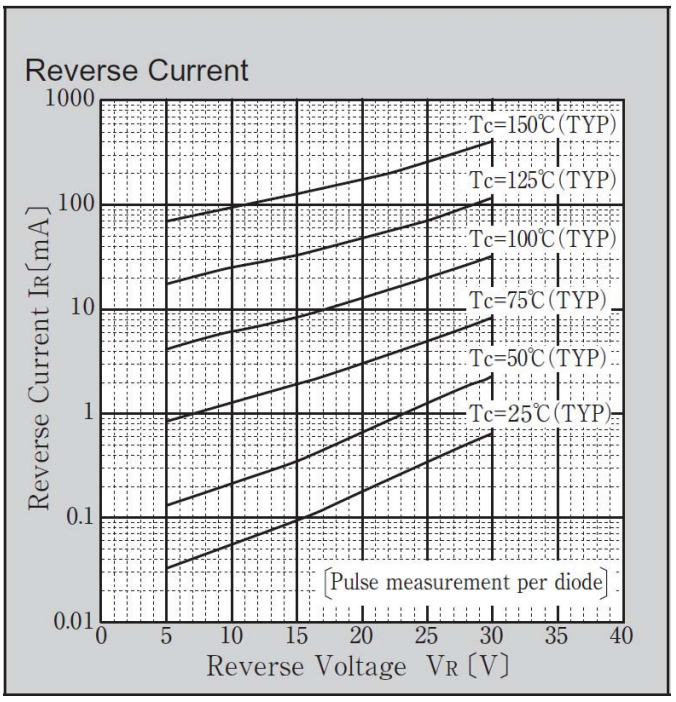
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

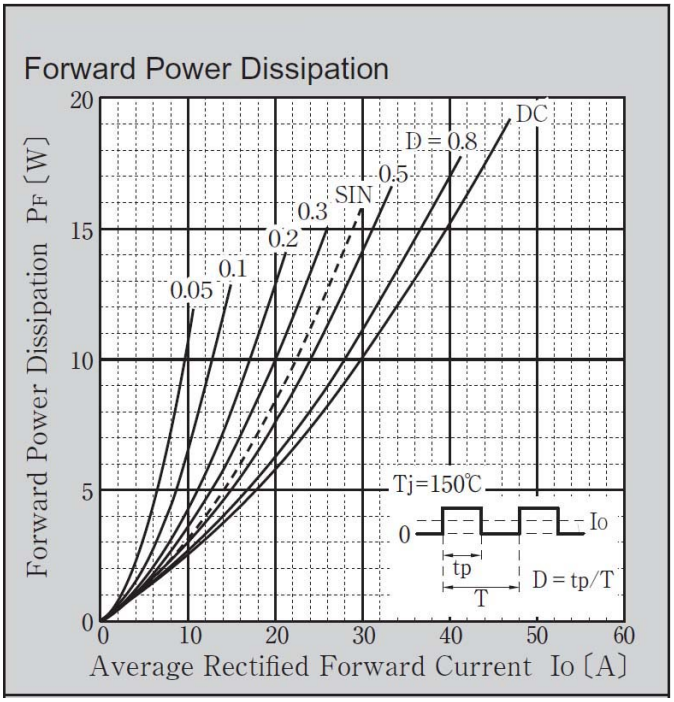
Forward Voltage



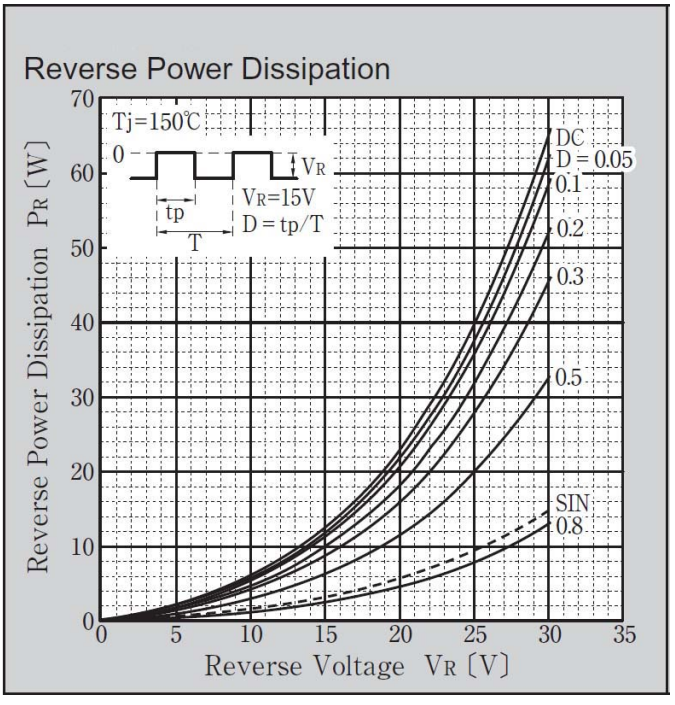
Reverse Current

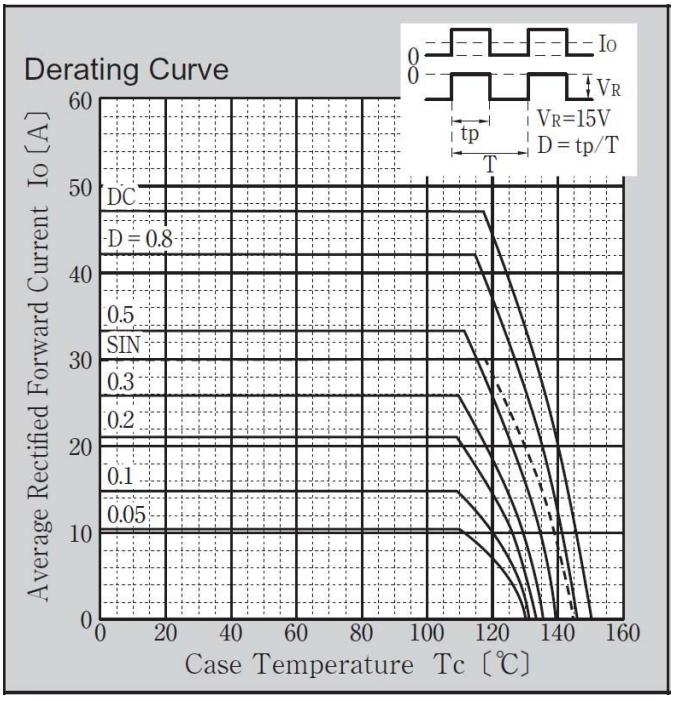


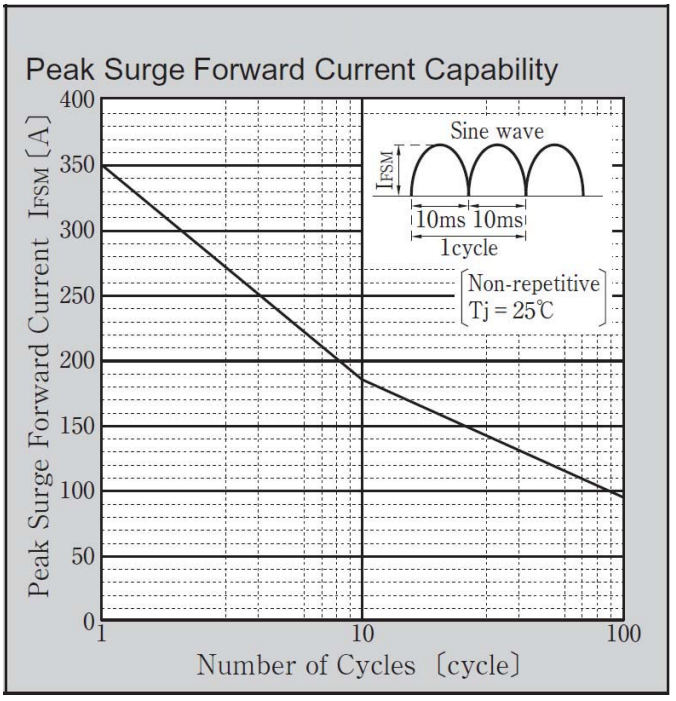
Forward Power Dissipation

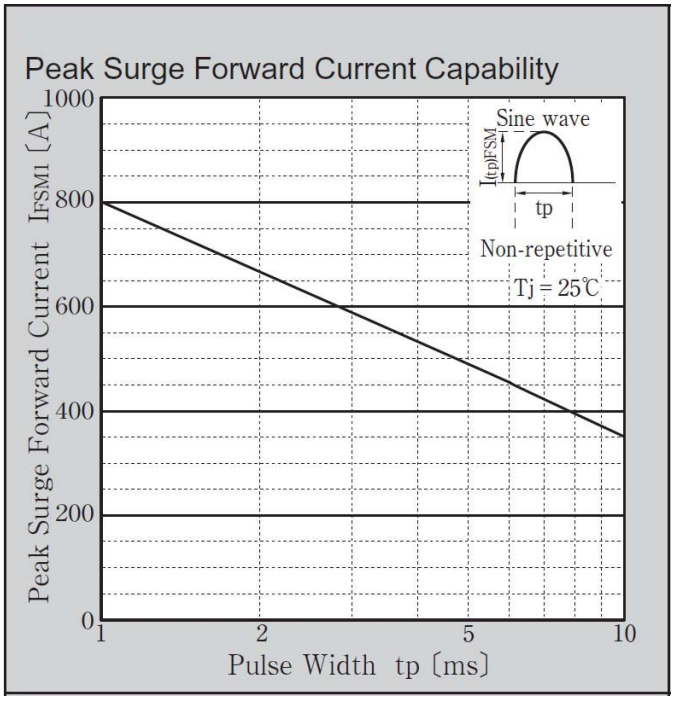


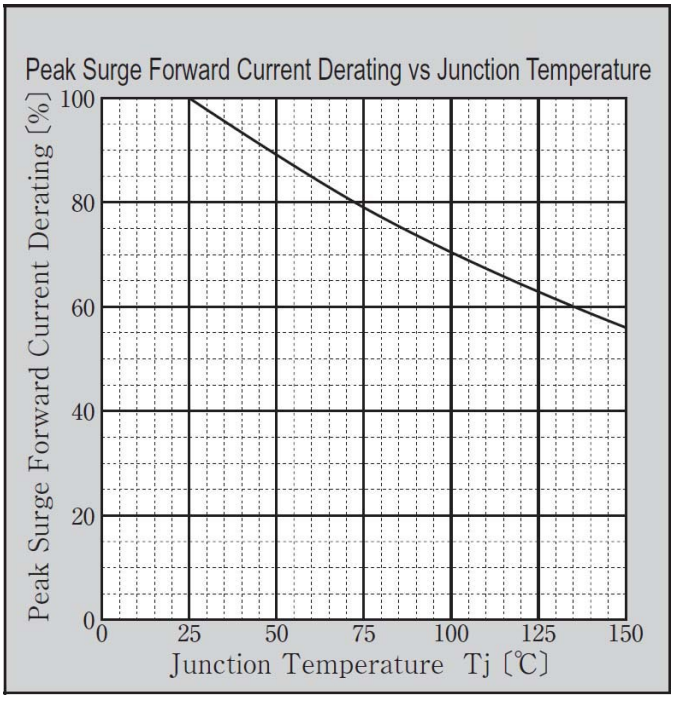
Reverse Power Dissipation

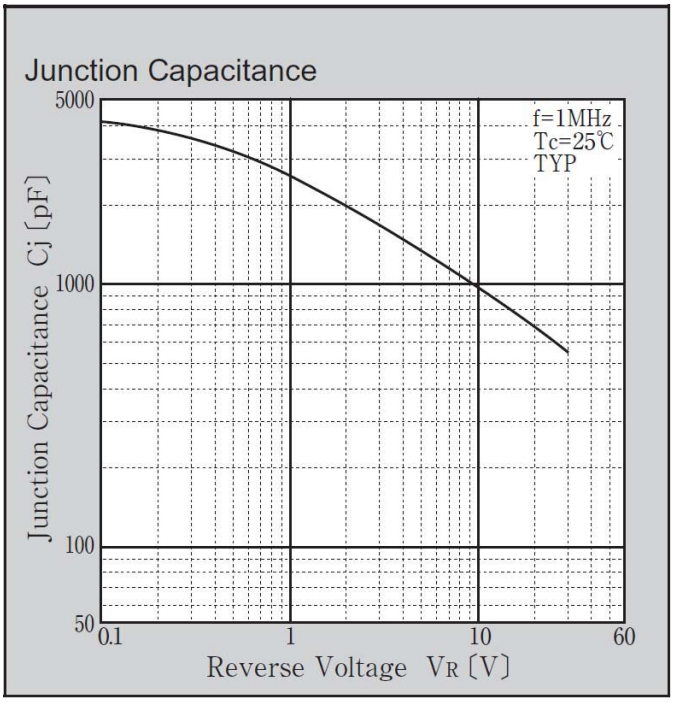


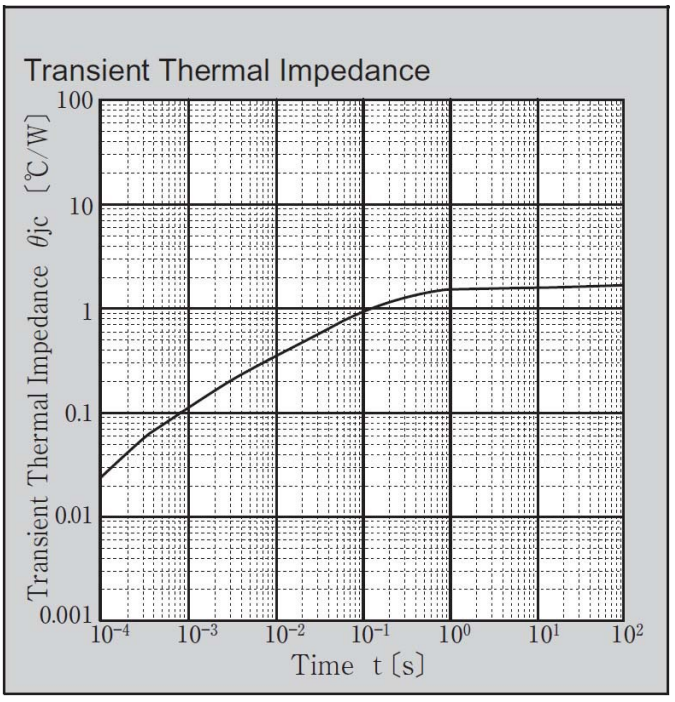

Derating Curve
Io
0
0
VR
tp
T
VR=15V
D = tp/T
DC
D = 0.8
0.5
SIN
0.3
0.2
0.1
0.05
Average Rectified Forward Current Io〔A〕
Case Temperature Tc〔℃〕
0
10
20
30
40
50
60
0
20
40
60
80
100
120
140
160


Peak Surge Forward Current Capability
Sine wave
IFSM
10ms 10ms
1cycle
Non-repetitive
Tj = 25℃
Peak Surge Forward Current IFSM〔A〕
Number of Cycles〔cycle〕
0
50
100
150
200
250
300
350
400
1
10
100


Peak Surge Forward Current Capability
Sine wave
I(tp)FSM
tp
Non-repetitive
Tj = 25℃
Peak Surge Forward Current IFSM1〔A〕
Pulse Width tp〔ms〕
0
200
400
600
800
1000
1
2
5
10


Peak Surge Forward Current Derating vs Junction Temperature
Peak Surge Forward Current Derating〔%〕
Junction Temperature Tj〔℃〕
0
20
40
60
80
100
0
25
50
75
100
125
150


Junction Capacitance
5000
1000
100
50
0.1
1
10
60
f=1MHz
Tc=25℃
TYP
Junction Capacitance Cj〔pF〕
Reverse Voltage VR〔V〕

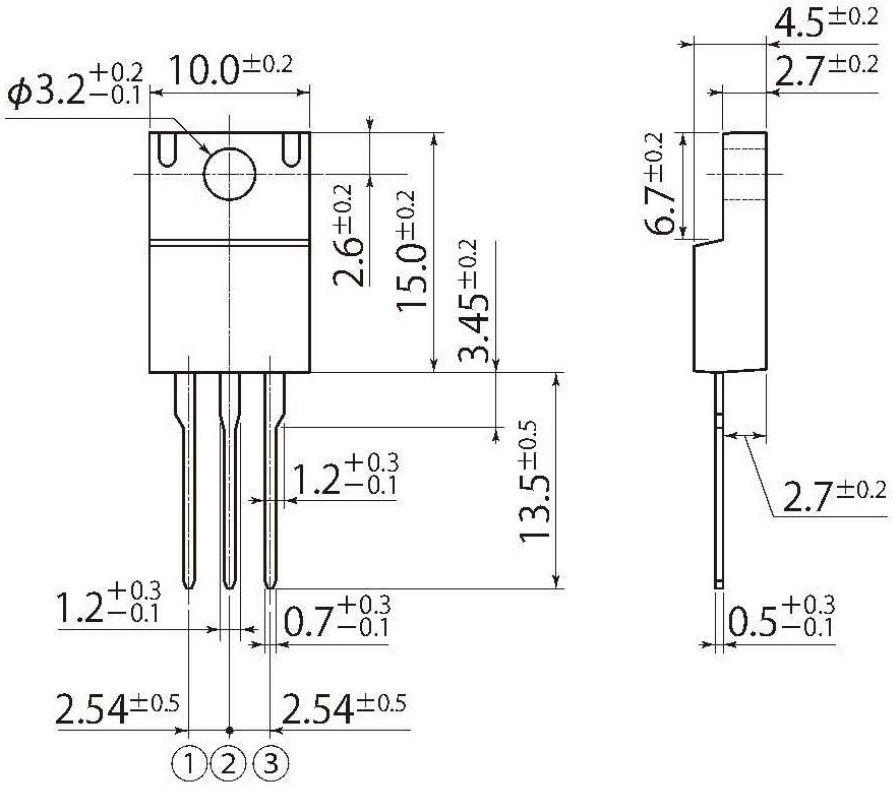

Transient Thermal Impedance
100
10
1
0.1
0.01
0.001
10⁻⁴
10⁻³
10⁻²
10⁻¹
10⁰
10¹
10²
Transient Thermal Impedance θjc〔℃/W〕
Time t〔s〕

Outline Dimensions

unit:mm

J9

JEDEC Code	–
JEITA Code	SC-91
House Name	FTO-220G(3pin)



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